

3rd Congress of the European Academy of Neurology
Amsterdam, 20.-22.04.2017

Ralf J. Jox
Geriatric Palliative Care
Lausanne University Hospital (CHUV)

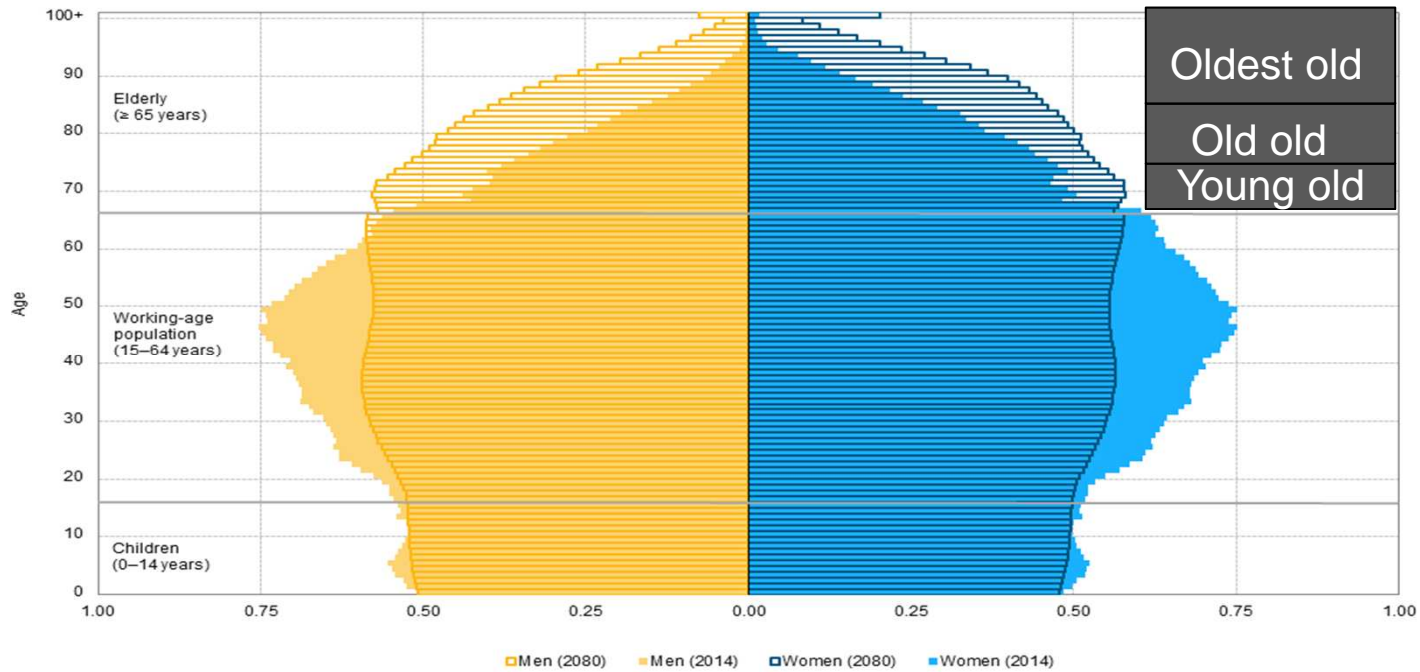
Critical care in
the elderly:
prognosis and
decision making



Outline

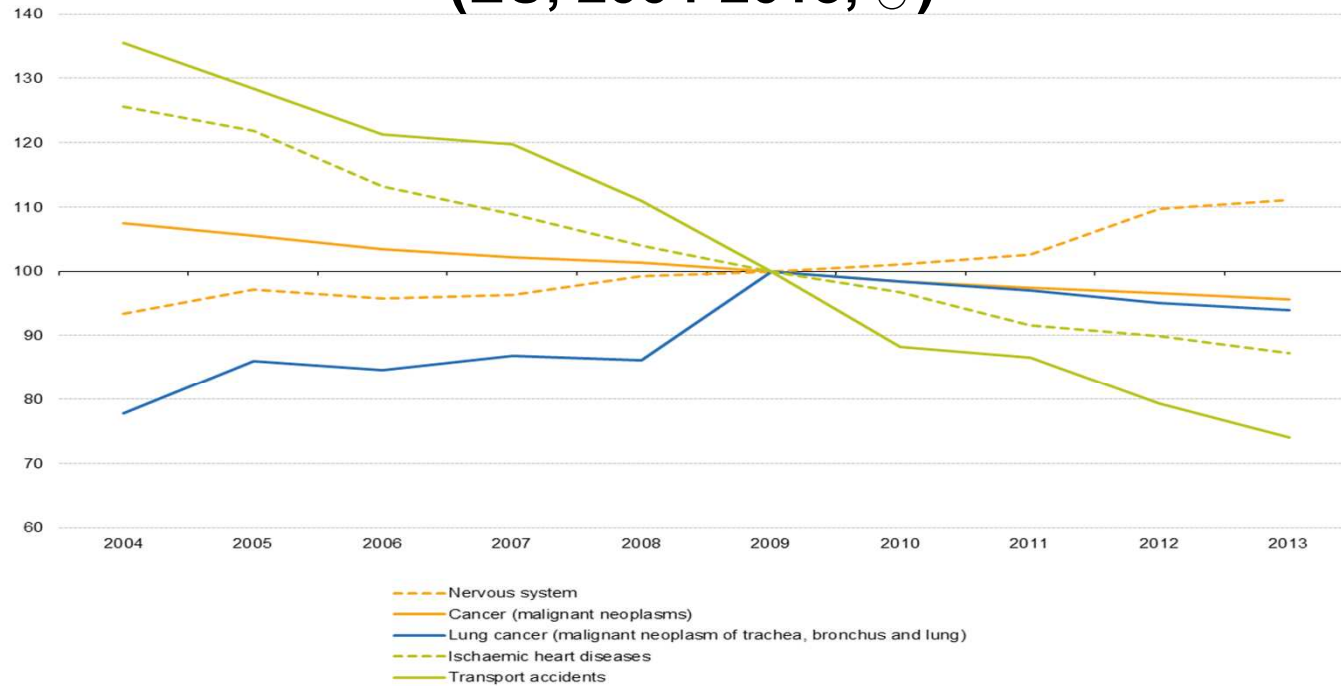
1. Evidence base and its limits
2. Decision making and normative criteria
3. Two cases for discussion

Demographic change



Source: Eurostat (online data codes: demo_pjan and proj_13npms)

Changing causes of death (EU, 2004-2013, ♂)

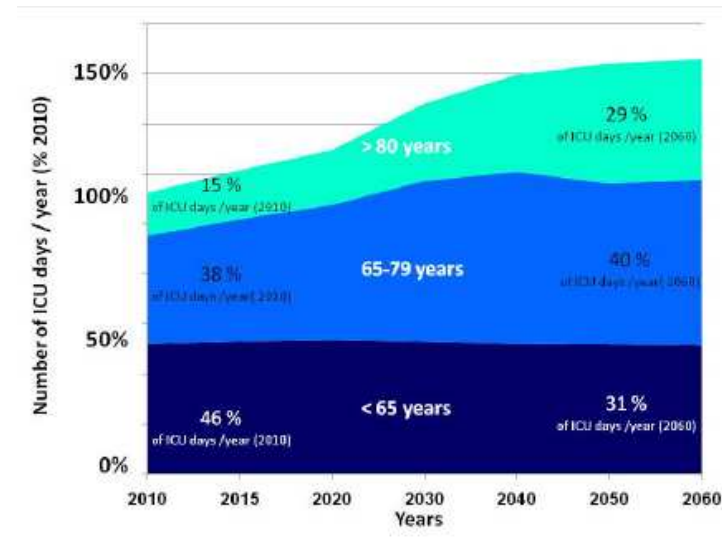


Note: 2004, 2005 and 2010: provisional. 2011–13: for the age standardisation, among older people, the age group aged 85 and over was used rather than separate age groups for 85–89, 90–94 and 95 and over.

Source: Eurostat (online data codes: hlth_cd_asdr and hlth_cd_asdr2)

ICU population

- Patient population in ICU reflects demographic change
- Swiss study 1980-1995: patients >70 years 19→28%, severity of diseases ↑, at same time mortality ↓ length of stay ↓



Jakob SM Int Care Med 1997;23:1165

Conti M Swiss Med Wkly 2012;142:w13671

Age and outcome

- Age is associated with higher burden of morbidity, multi-morbidity, including neuropsychiatric morbidity
- For most neuro-critical diseases, age is an independent predictor of disease onset and outcome

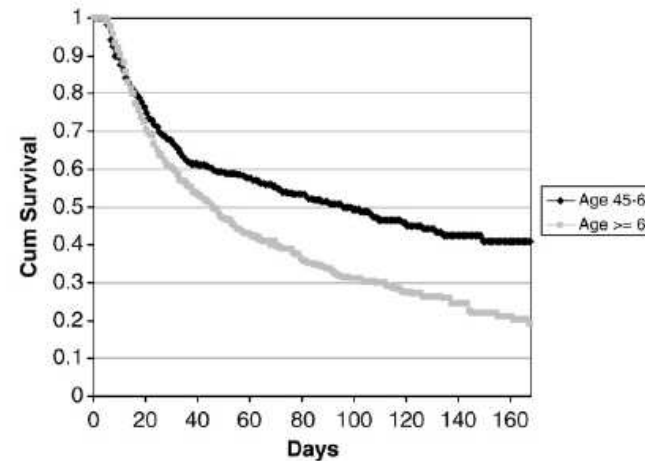
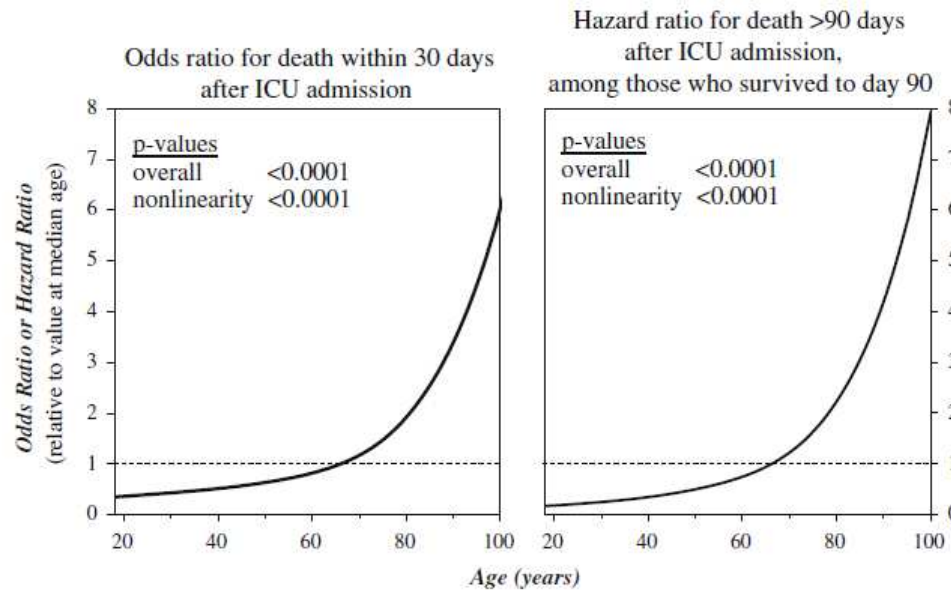


Fig. 2 Survival from hospital admission to 4 months posthospital discharge for middle-aged (n = 421) and older patients (n = 700).

Douglas SL J Crit Care 2009;24:302

Marik PE Crit Care Med 2006;34Suppl:S176

Age and outcome



Short-term mortality determined mainly by **severity of acute illness**

Long-term mortality primarily determined by **age and co-morbidity**

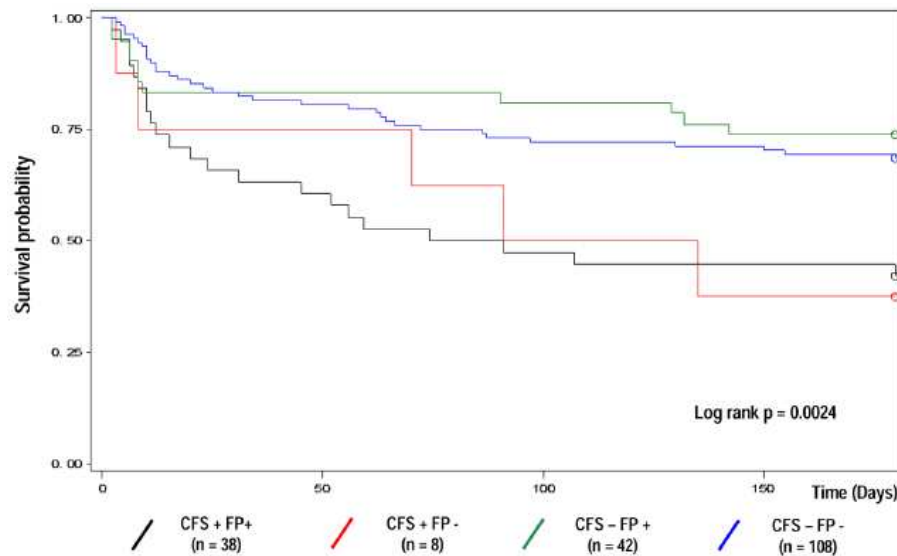
Garland A Intensive Care Med 2014;40:1097

Age and outcome

Better predictor than chronological age: **frailty**

Multidimensional
loss of reserves
→ vulnerability ↑

Operational
assessment:
**CFS Clinical
frailty score**



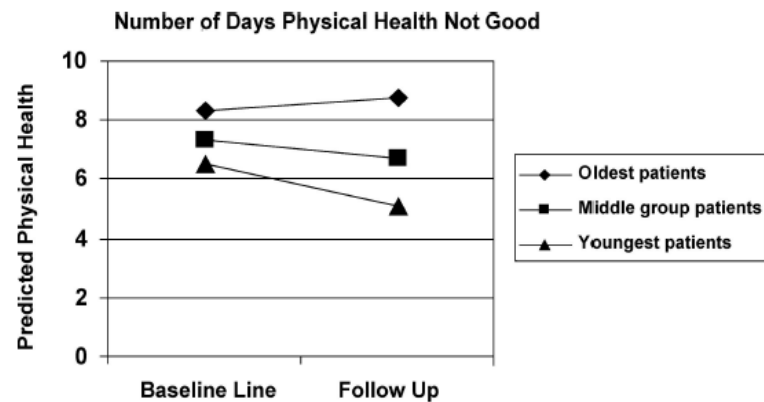
Rockwood R CMAJ;173:489
Fried LP J Gerontol 2001;56A:M146

Age and outcome

More relevant outcome criterion than mortality: **quality of life**

Large prospective study:

- ICU patients > 65 years
- 76% survived to discharge
- 66% alive 6 months later
- Age did not predict death after 6 months
- Age predicted QoL after 6 months



Khoulil H Crit Care Med 2011;39:731

Limitations

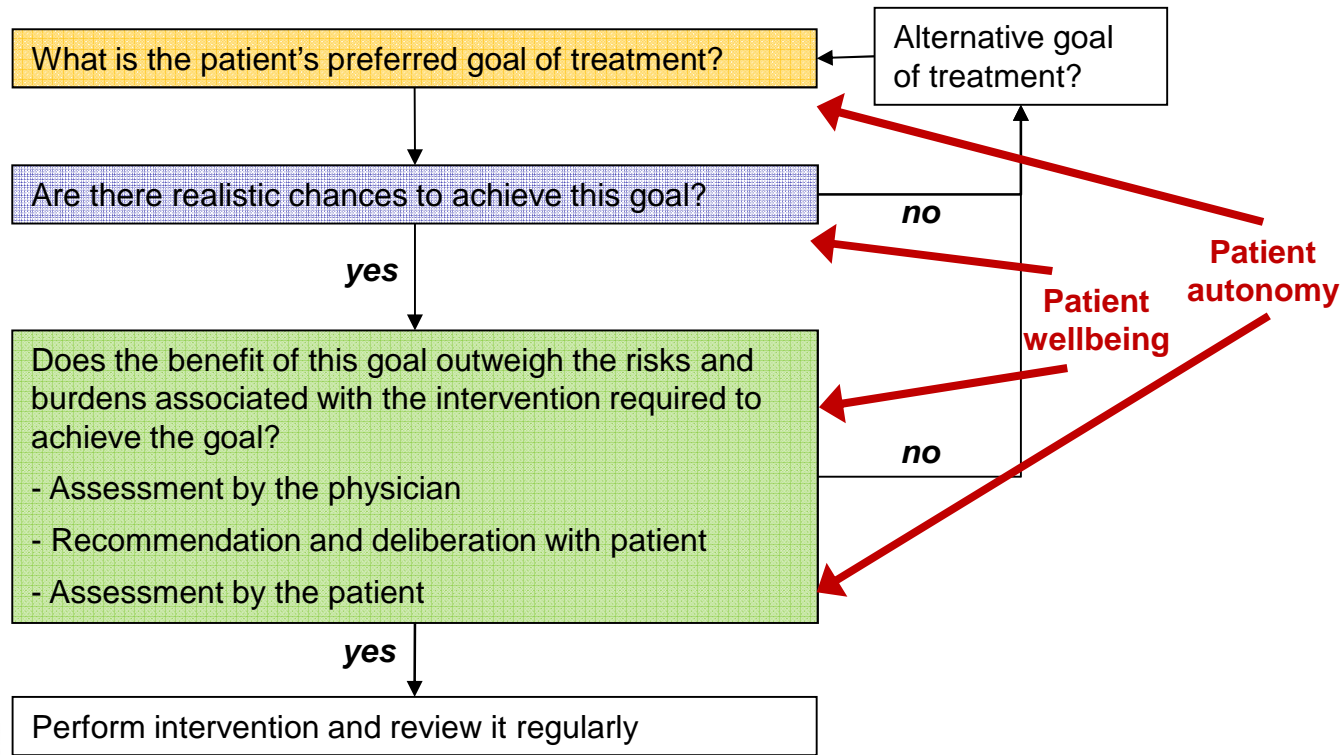
- Outcomes also depend on the quality of care at each ICU
- Rapidly changing evidence needs to be known
- Collective data need to be individualized
- Treatment decisions are normative judgments that are determined by more than evidence
- Perception of inappropriate ICU care can lead to significant moral distress

*Piers RD Chest 2014;146:267
Jox RJ J Crit Care 2012;25:413*

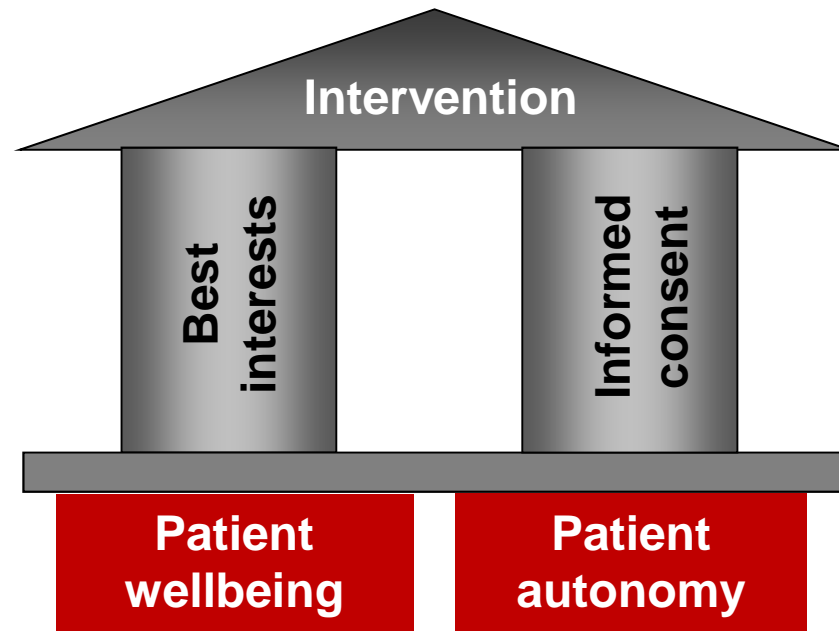
Outline

1. Evidence base and its limits
- 2. Decision making and normative criteria**
3. Two cases for discussion

Treatment decisions



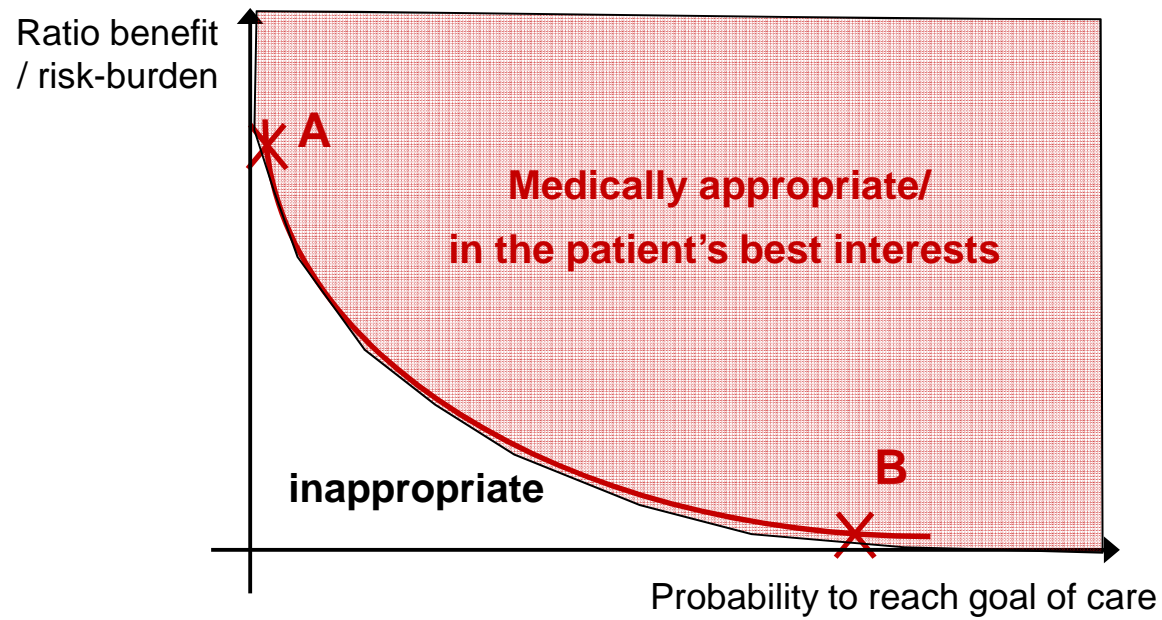
Normative criteria



Patient's best interests

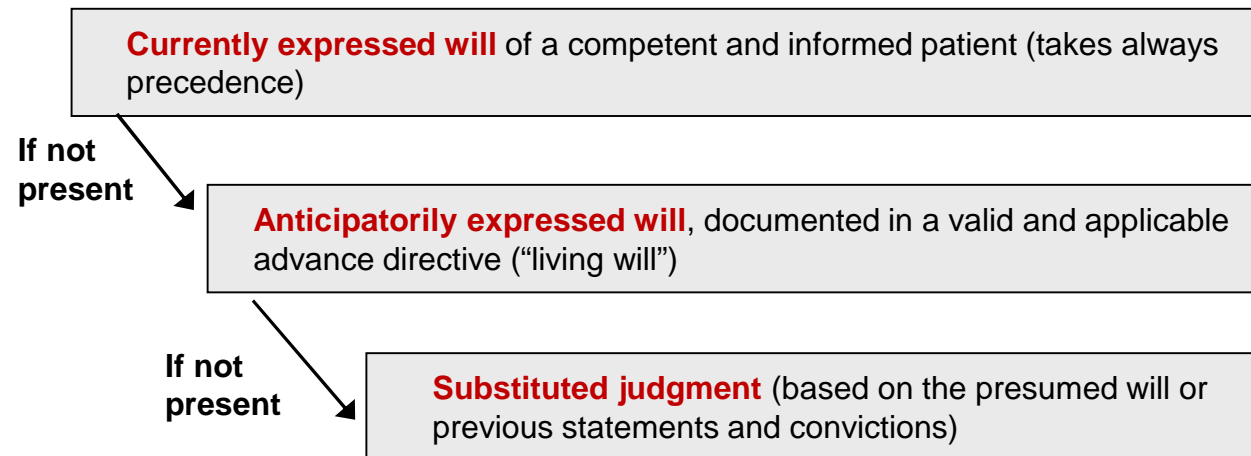
- Determination should focus on the **individual** instead of a diagnostic or prognostic patient group
- Includes more than health outcomes: **holistic view** of quality of life / human flourishing
- Encompasses both **current** wellbeing and the projection of **future** wellbeing (in relation to the probability of the prognosis)
- Envisaging **benefit & risk/burden** of care as well as the **probability** of them

Patient's best interests



Informed consent

- Based on the full, honest and adequate information of the patient or his/her authorized surrogate



Advance directives

- Rising prevalence in the population (15-30%), esp. in the >65 years (>50%)
- Most forms include acute brain injury (relevant in neuro-ICU)
- Studies show only a marginal impact of advance directives

*Lack/Biller-Andorno/Brauer, Springer 2014
Coors/Jox/in der Schmitten, Kohlhammer 2015*

Table 3
Comparison of EOL therapy between patients with and without ADs

	All patients n = 192	No AD n = 128	AD n = 64	P value
DNR/DNI	121 (63.0)	72 (56.3)	49 (76.6)	.007
Withhold	115 (60.0)	75 (58.6)	29 (45.3)	.092
Withdraw	90 (46.9)	60 (46.9)	30 (46.9)	1
CPR	35 (18.3)	29 (22.8)	6 (9.4)	.029
Circulatory support	164 (87.2)	109 (87.9)	55 (85.9)	.818
Mechanical ventilation	164 (86.3)	113 (89.7)	51 (79.7)	.074
Hemodialysis	71 (44.7)	44 (46.3)	27 (42.2)	.629
Median SOFA score	10 (8-13.3)	10.25 (8-13.4)	10 (8-13)	.798
Maximal SOFA score	13 (11-16)	14 (11-16)	13 (10-17)	.487
ICU length of stay, h	118 (35.5-264)	118.04 (26.8-247.5)	117 (49.8-357.5)	.134
Hospital length of stay, h	219.5 (76-470.8)	211 (75.5-459.8)	263 (80.5-538)	.443

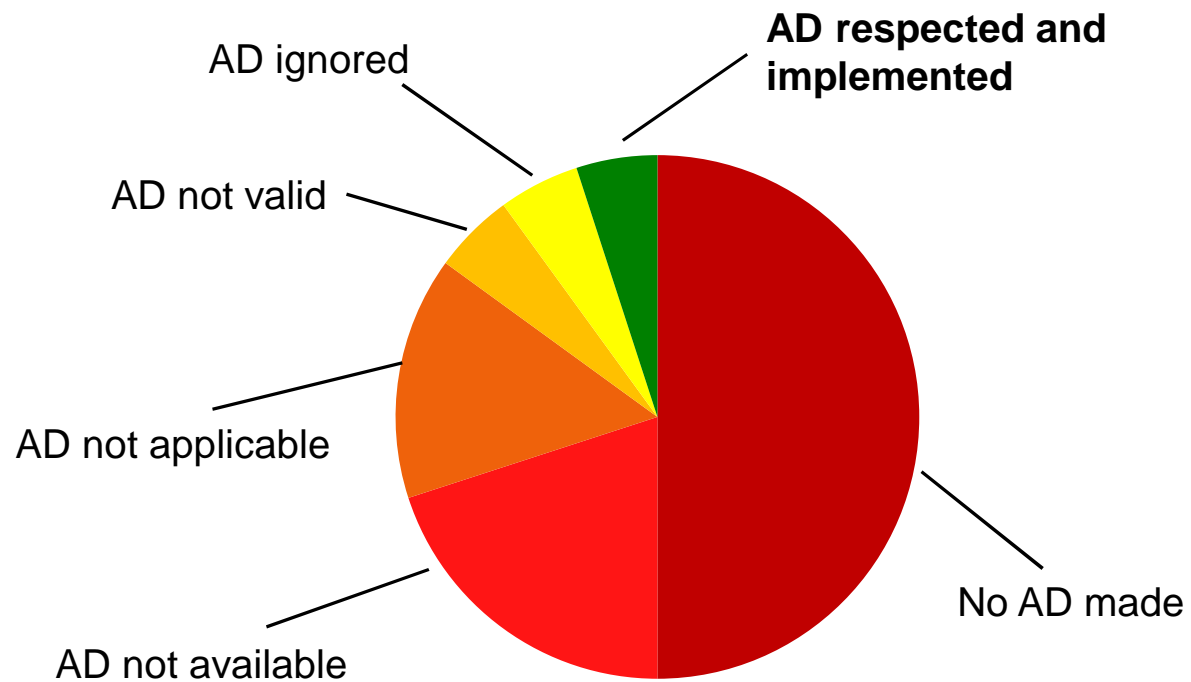
DNI = do not intubate.

Circulatory support includes vasopressor, intraaortic balloon pump, or extracorporeal membrane oxygenation.

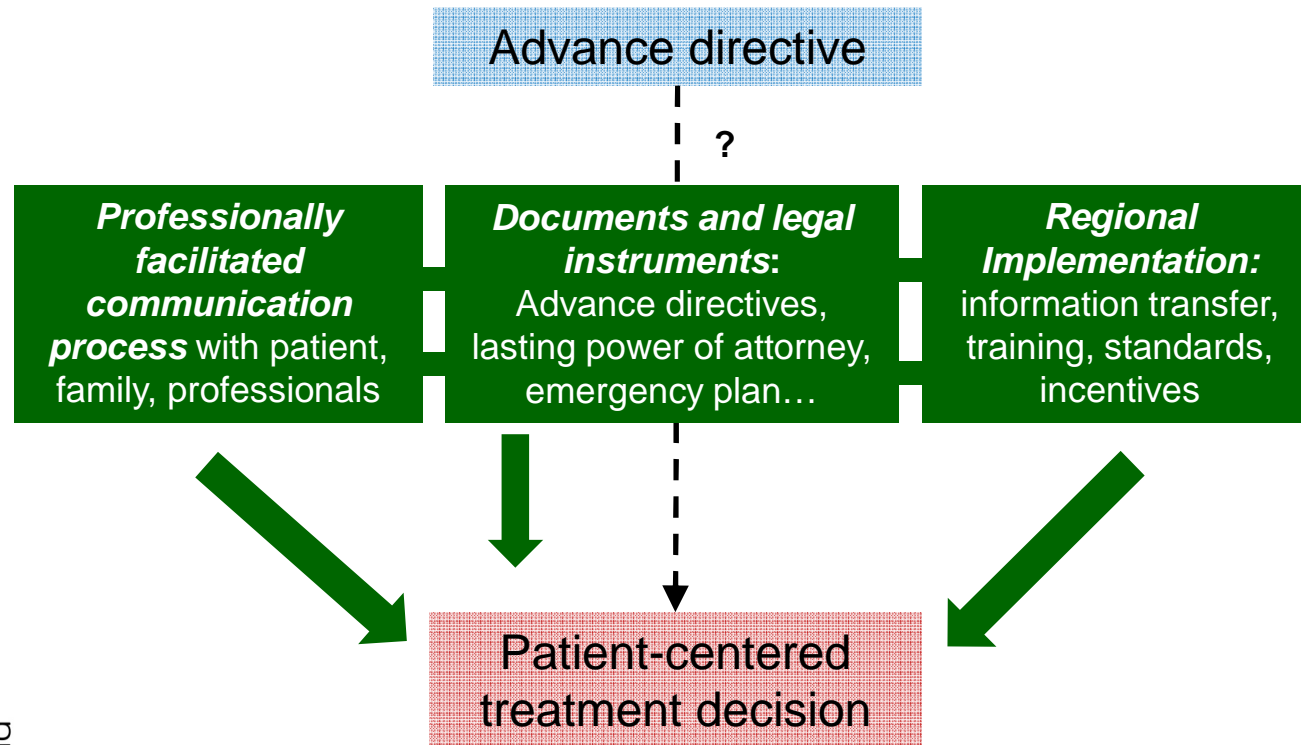
Descriptive statistics as n (%) or median (interquartile range). P values obtained by Fisher exact test.

Hartog CS J Crit Care 2014;29:128

Advance directives



Advance Care Planning (ACP)



Outline

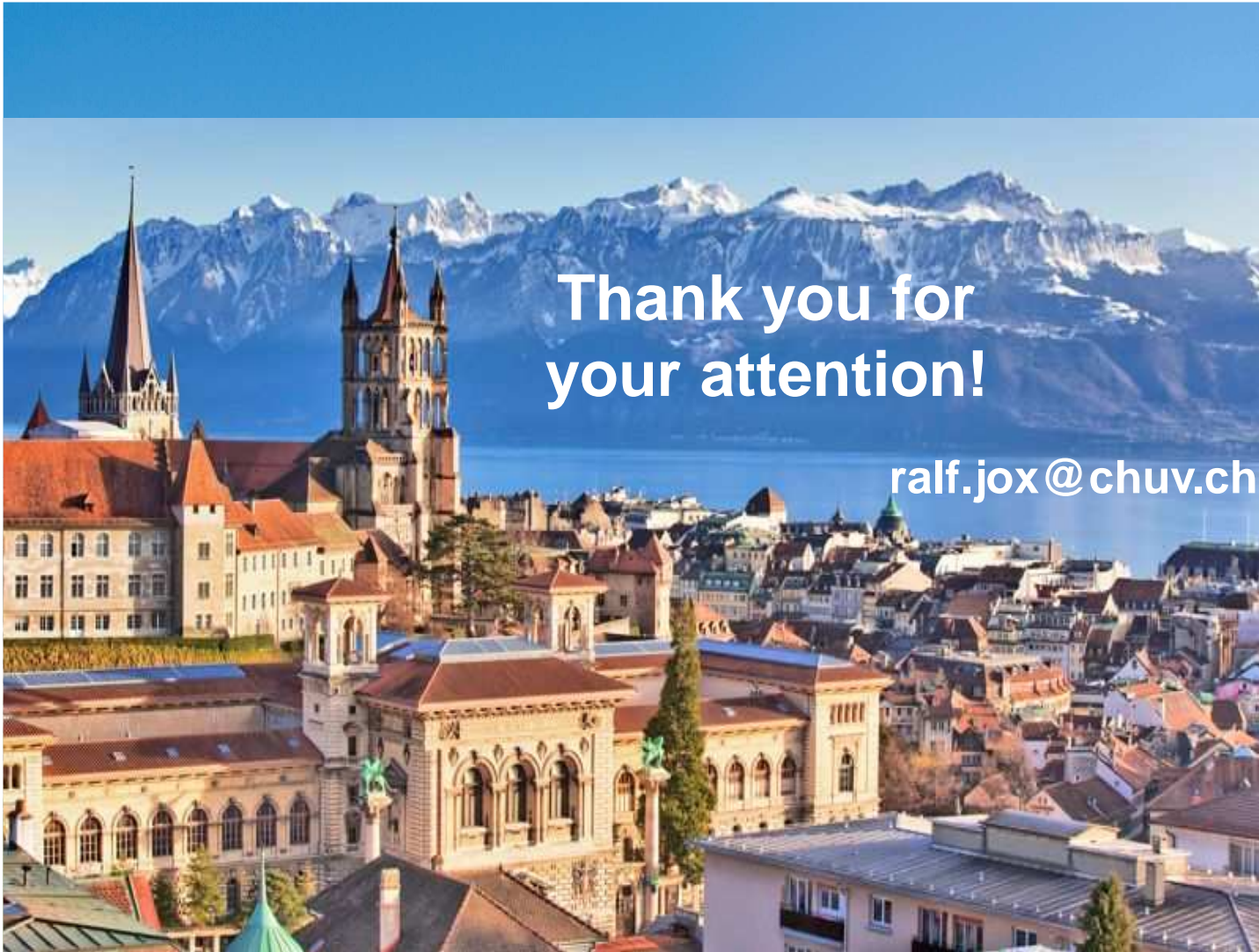
1. Evidence base and its limits
2. Decision making and normative criteria
- 3. Two cases for discussion**

Case 1

- Mr. B, 87 yo former lawyer, excellent prior health condition
- Fall, femoral fracture, surgery, geriatric rehab facility
- Cardiorespiratory arrest, delayed CPR, optimal ICU care
- 2 weeks later minimally conscious state: visual tracking, simple command following
- No ventilation any more, but artificial nutrition & hydration, antibiotics
- Neurological prognosis relatively favorable
- AD: no life support in “severe brain damage”, wife unsure

Case 2

- Mr. Z, 95 yo former Russian ballet dancer, nursing home
- Moderate degree of dementia, BPSD, depressive episodes
- Somatic multimorbidity, gradual functional decline over past months, recurrent aspirations, drinking and eating less
- Acute signs of pneumonia, respiratory decompensation
- Emergency intubation, ventilation, ICU, hemofiltration
- Intensivists hesitate to continue treatment due to “futility”
- Court-appointed guardian requests full treatment pointing to her strong personality



**Thank you for
your attention!**

ralf.jox@chuv.ch